IN THE CLAIMS

The claims pending in the application are reproduced below in accordance with 37 C.F.R. § 1.121:

1.   (original)   A method for automatically analyzing an article of manufacture comprising:

    a)   providing a master model and a context model specification;

    b)   creating a context model from said master model and said context model specification;

    c)   translating said context model into an engineering analysis model compatible with an engineering analysis program;

    d)   executing said engineering analysis program to generate a performance estimate from said engineering analysis model; and

    e)   optionally modifying said master model to improve said performance estimate.

2.   (original)   The method of claim 1, wherein said step of creating a context model comprises creating an associative copy from said master model.

3.   (original)   The method of claim 1, wherein said step of creating a context model further comprises chunking.

4.   (original)   The method of claim 1, wherein said step of creating a context model further comprises trimming.

5.   (original)   The method of claim 1, wherein said step of creating a context model further comprises tagging.

6.   (original)   The method of claim 1, wherein the step of translating said context model into an engineering analysis model comprises generating at least one macro file.

7.   (original)   The method of claim 1, wherein the step of modifying said master model to improve said performance estimate comprises using a finite element method.

8.   (original)   The method of claim 1, wherein the step of modifying said master model to improve said performance estimate comprises using a finite difference method.

9.   (original)   The method of claim 1, wherein said master model represents a compressor spool.

10.   (original)   The method of claim 9, wherein said compressor spool comprises multiple disks and adjacent rotating hardware.

11.   (original)   A method for automatically analyzing a turbine engine disk comprising:

a)   loading a turbine disk CAD model from a database;

b)   acquiring a geometric description of a region of interest from an user;

c)   creating a context model from said geometric description and said CAD model by trimming, tagging and chunking;

d)   generating a mesh from said context model;

e)   executing and engineering analysis program using said mesh to generate a performance estimate;

f)   optionally modifying said turbine disk CAD model to improve said performance estimate.

12.   (original)   The method of claim 11, wherein said step of creating a context model comprises creating an associative copy from said master model.

13.   (original)   The method of claim 11, wherein said step of creating a context model further comprises chunking.

14.   (original)   The method of claim 11, wherein said step of creating a context model further comprises trimming.

15.   (original)   The method of claim 11, wherein said step of creating a context model further comprises tagging.

16.   (original)   The method of claim 11, wherein the step of translating said context model into an engineering analysis model comprises generating at least one macro file.

17.   (original)   The method of claim 11, wherein the step of modifying said master model to improve said performance estimate comprises using a finite element method.

18.   (original)   The method of claim 11, wherein the step of modifying said master model to improve said performance estimate comprises using a finite difference method.

19.   (original)   The method of claim 11, wherein said master model represents a compressor spool.

20.   (original)   The method of claim 19, wherein said compressor spool comprises multiple disks and adjacent rotating hardware.